

WHAT IS CLAIMED IS:

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*Alt*

1. An endoscope image sensing apparatus comprising:
  - an image sensing section for obtaining an image signal by photoelectrically converting an object image;
  - 5 a conversion matrix section capable of changing a setting associated with a conversion matrix to a desired setting, the conversion matrix being used to convert the image signal, obtained by said image sensing section, into a video signal, by a predetermined matrix computation; and
  - 10 an input section for inputting information about a change in the setting associated with the conversion matrix.
- 15 2. An apparatus according to claim 1, wherein said conversion matrix section includes a color adjustment processing section for performing color adjustment processing, and changes a setting associated with conversion performed by said conversion matrix section on the basis of a gain coefficient set when the color adjustment processing is performed.
- 20 3. An apparatus according to claim 1, wherein said image sensing section is a one-chip color CCD, and said conversion matrix section converts luminance and color difference signals into primary color signals.
- 25 4. An apparatus according to claim 1, further comprising:

a storage section in which a plurality of settings associated with the matrix computation are stored in advance; and

5 a control section for changing the setting by selecting one of the plurality of settings stored in said storage section in accordance with a command from said input section.

10 5. An apparatus according to claim 4, wherein said image sensing section is a one-chip color CCD, and said conversion matrix section converts luminance and color difference signals into primary color signals.

15 6. An apparatus according to claim 4, wherein said conversion matrix section includes a color adjustment processing section for performing color adjustment processing, and changes a setting associated with conversion performed by said conversion matrix section on the basis of a gain coefficient set when the color adjustment processing is performed.

20 7. An apparatus according to claim 6, wherein said image sensing section is a one-chip color CCD, and said conversion matrix section converts luminance and color difference signals into primary color signals.

25 8. An apparatus according to claim 6, wherein the color adjustment processing is white balance processing, and said color adjustment processing section is a white balance processing section.

9. An apparatus according to claim 8, wherein

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said image sensing section is a one-chip color CCD, and  
said conversion matrix section converts luminance  
and color difference signals into primary color signals.

10. An endoscope image sensing apparatus  
5 comprising:

an image sensing section for obtaining an image  
signal by photoelectrically converting an object image;

10 a conversion matrix section for converting the  
image signal obtained by said image sensing section  
into a video signal by a predetermined matrix  
computation;

a designating section for designating a change of  
a setting associated with conversion performed by said  
conversion matrix section; and

15 a control section for changing a setting  
associated with the conversion performed by said  
conversion matrix section on the basis of designation  
performed by said designating section.

11. An apparatus according to claim 10, wherein  
20 said designating section is a switching device mounted  
on an operation portion for operating said endoscope  
image sensing apparatus.

12. An apparatus according to claim 10, wherein  
25 said apparatus further comprises a storage section  
in which coefficients associated with the matrix  
computation are stored in advance, and said control  
section reads out a coefficient corresponding to the

designation and stored in said storage section, and outputs the coefficient to said conversion matrix section.

13. An apparatus according to claim 10, wherein  
5 said storage section is a ROM.

14. An endoscope image sensing apparatus comprising:

a light source for irradiating an object with  
10 light;

10 an image sensing section for obtaining an image signal by photoelectrically converting an object image;

a conversion matrix section for converting the image signal obtained by said image sensing section into a video signal by a predetermined matrix computation;

15 a communication section for serially communicating with said light source; and

20 a control section for performing serial communication with said light source through said communication section, receiving an identification signal associated with said light source, recognizing a type of said light source, and changing a setting associated with conversion performed by said conversion matrix section on the basis of the type.

25 15. An apparatus according to claim 14, wherein said apparatus further comprises a storage section in which coefficients associated with the matrix

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computation are stored in advance, and said control section reads out a coefficient associated with the type of light source from said storage section, and outputs the coefficient to said conversion matrix section.

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16. An apparatus according to claim 15, wherein said storage section is a ROM.

17. An endoscope image sensing apparatus comprising:

10 a light source for irradiating an object with  
light;

an image sensing section for obtaining an image signal by photoelectrically converting an object image;

15 a conversion matrix section for converting the  
image signal obtained by said image sensing section  
into a video signal by a predetermined matrix  
computation;

a white balance processing section for performing white balance processing; and

20 a control section for recognizing a type of  
light source on the basis of a magnitude of a gain  
coefficient set when the white balance processing is  
performed, and changing the setting associated with  
said conversion matrix section on the basis of the type  
25 of light source.

18. An apparatus according to claim 17, wherein said apparatus further comprises a storage section

in which coefficients associated with the matrix computation are stored in advance, and said control section reads out a coefficient corresponding to the type of light source obtained on the basis of a gain coefficient from said storage section, and outputs the coefficient to said conversion matrix section.

19. An apparatus according to claim 17, wherein said white balance processing section determines gain amounts of red and blue light components on the basis of results obtained by calculating red of a screen average/green of a screen average and blue of a screen average/green of a screen average.

20. An apparatus according to claim 18, wherein said storage section is a ROM.

21. An apparatus according to claim 10, wherein said apparatus further comprises a display section for displaying a setting associated with conversion performed by said conversion matrix section, and when a setting associated with conversion performed by said conversion matrix section is changed by said designating section, said display section can be referred to.

22. An endoscope image sensing method comprising the steps of:

obtaining an image signal by photoelectrically converting an object image;

changing a setting associated with a conversion matrix to a desired setting, the conversion matrix

being used to convert the image signal, obtained in the step of performing image sensing, into a video signal, by a predetermined matrix computation; and

5 inputting information about a change in the setting associated with the conversion matrix.

23. A method according to claim 22, wherein the step of performing conversion matrix processing further comprises the step of performing color adjustment processing, and the method further comprises the step 10 of changing a setting associated with conversion performed in the step of performing conversion matrix processing on the basis of a gain coefficient set when the color adjustment processing is performed.

24. A method according to claim 22, further 15 comprising the steps of:

storing a plurality of settings associated with the matrix computation in advance; and

20 changing the setting on the basis of a desired setting selected from the plurality of settings stored in said storage section in the step of inputting.

25. A method according to claim 24, wherein the step of performing conversion matrix processing further comprises the step of performing color adjustment processing, and the method further comprises the step of changing a setting associated with conversion performed in the step of performing conversion matrix processing on the basis of a gain coefficient set when

the color adjustment processing is performed.

26. A method according to claim 25, wherein the  
color adjustment processing is white balance processing,  
and the step of performing color adjustment processing  
5 is the step of performing white balance processing.